

FIG. 1

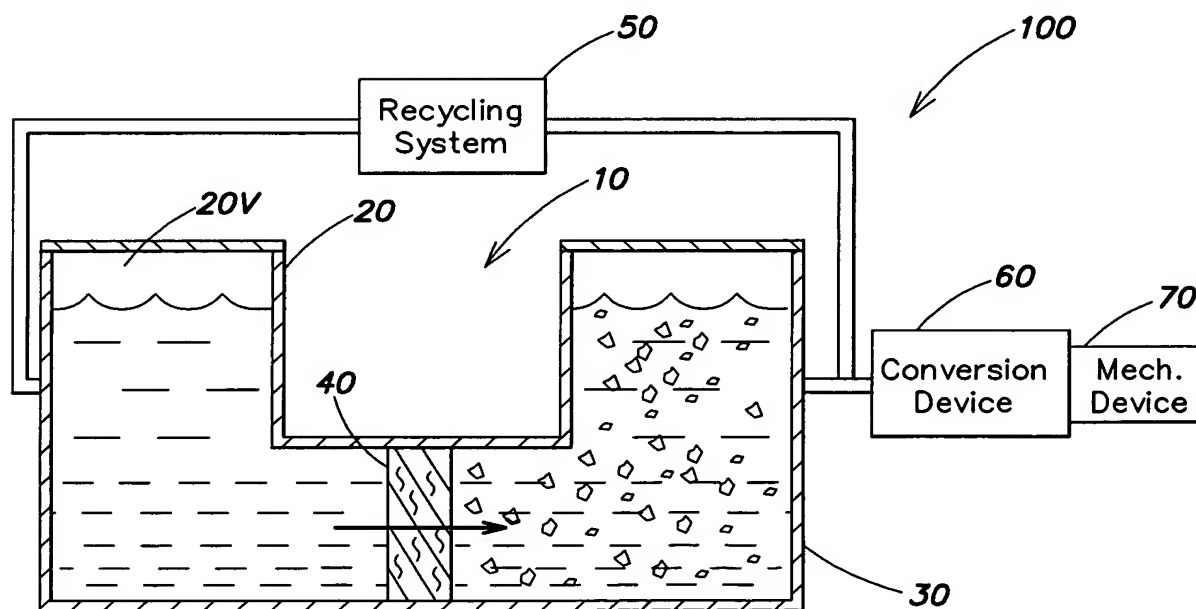


FIG. 3

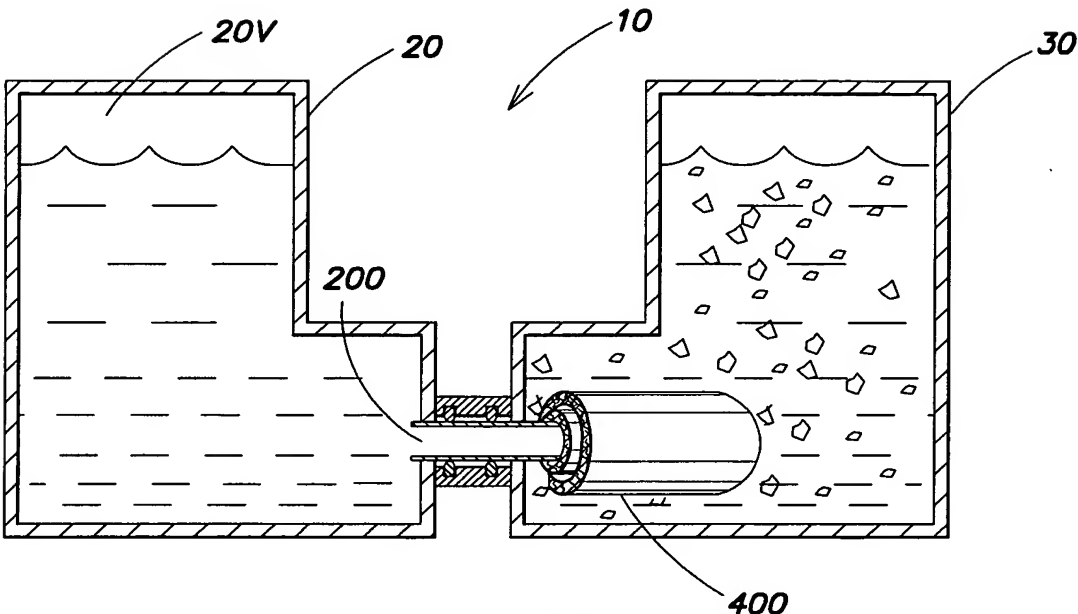


FIG. 2A

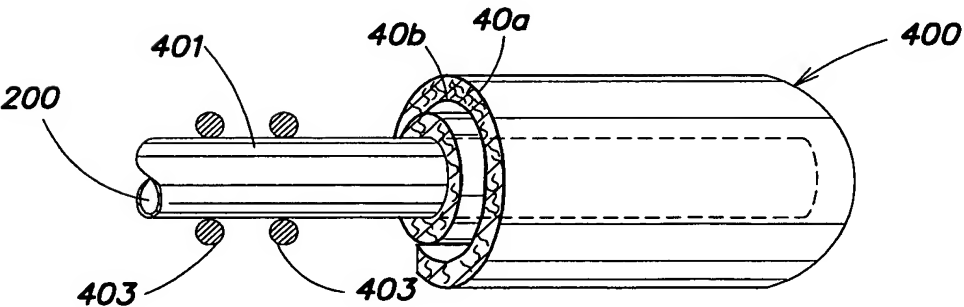


FIG. 2B

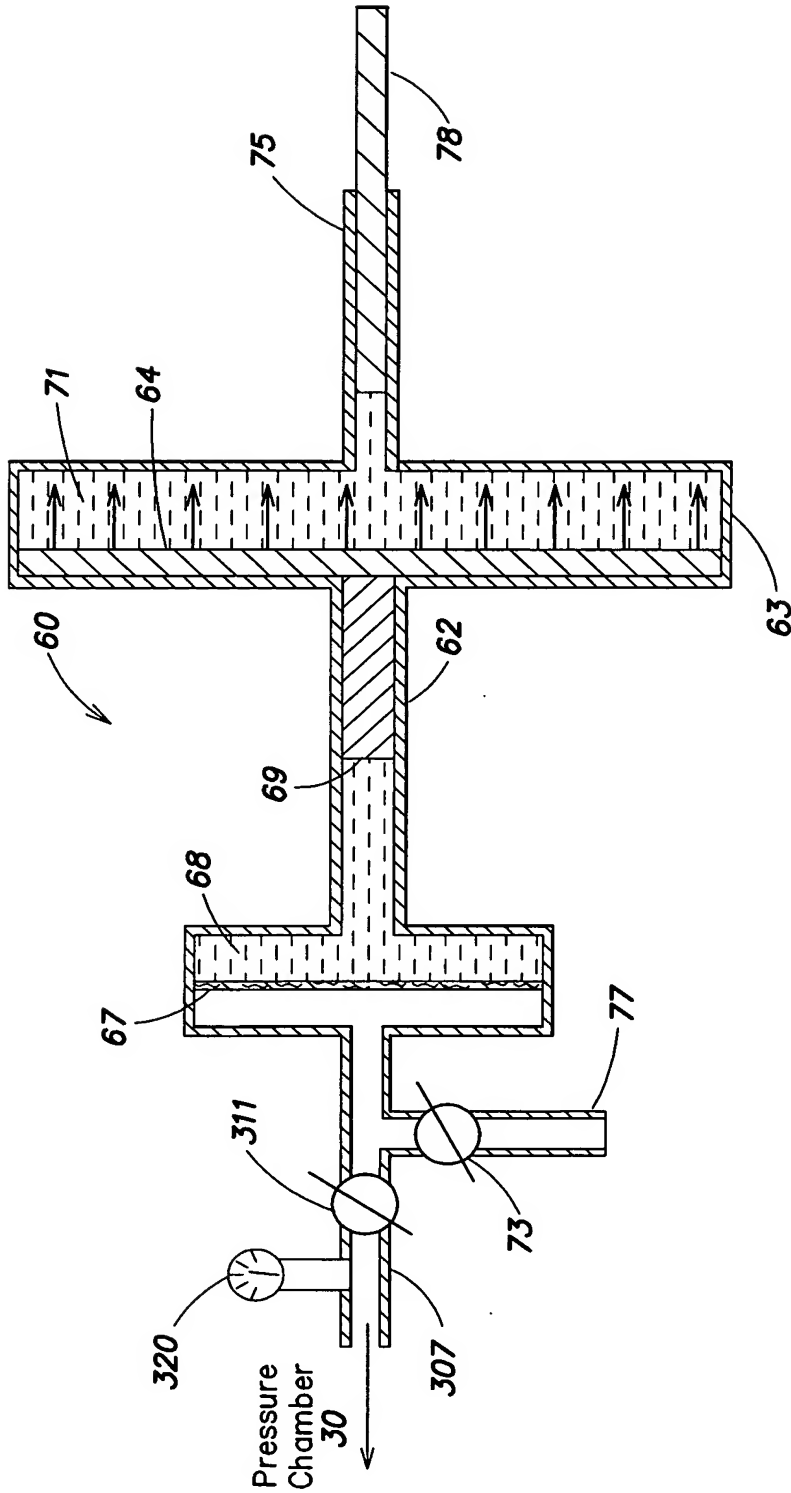


FIG. 4

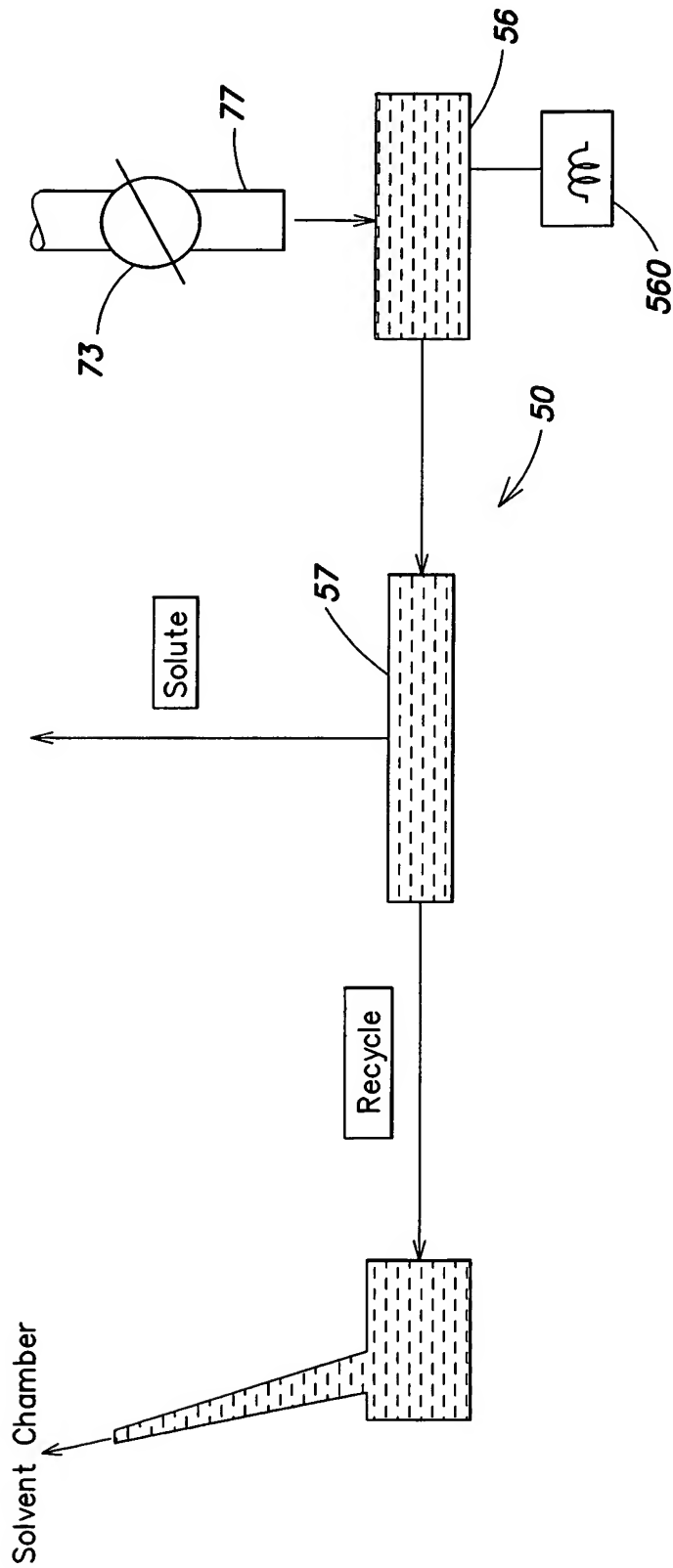


FIG. 5

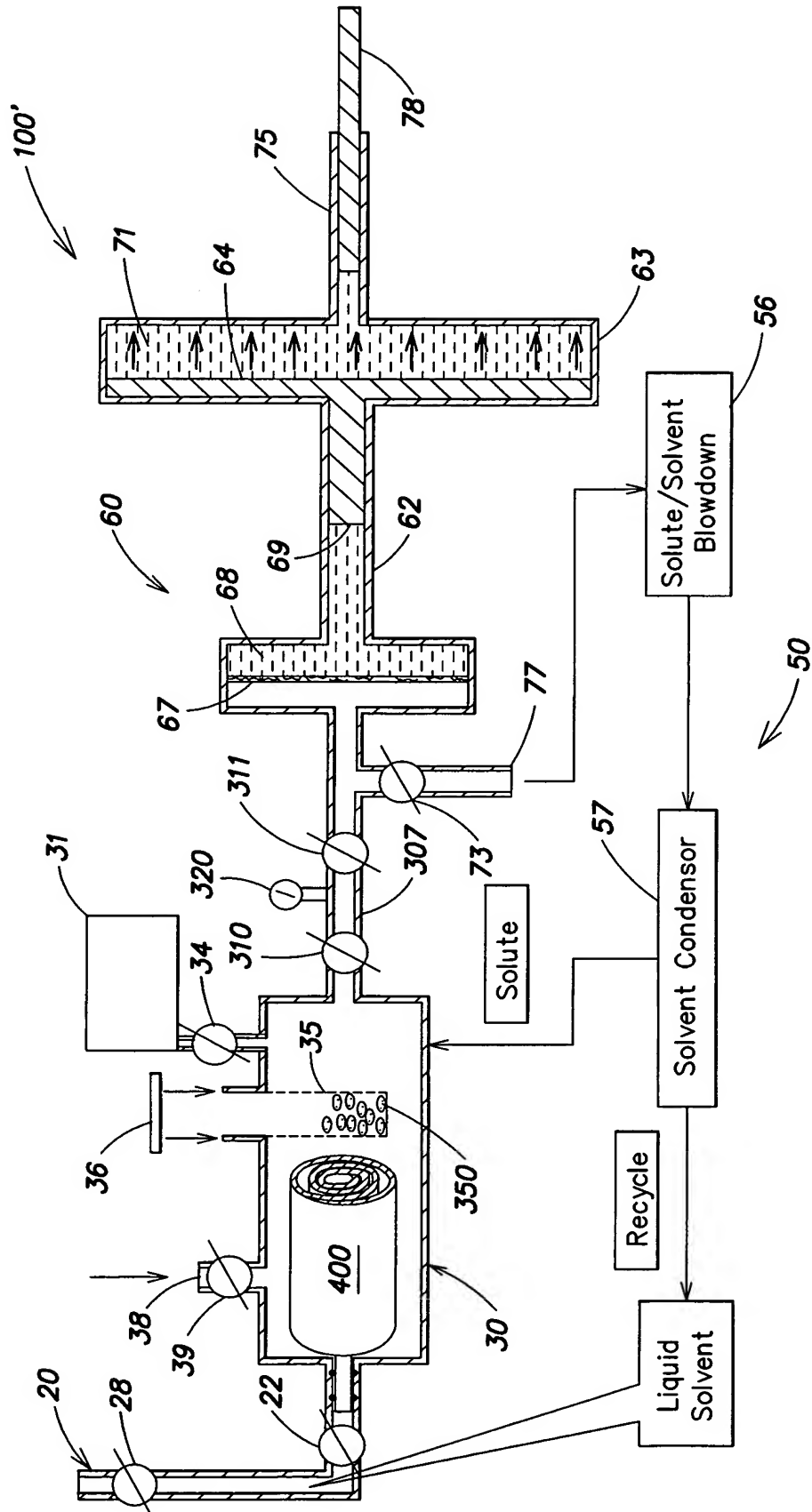


FIG. 6

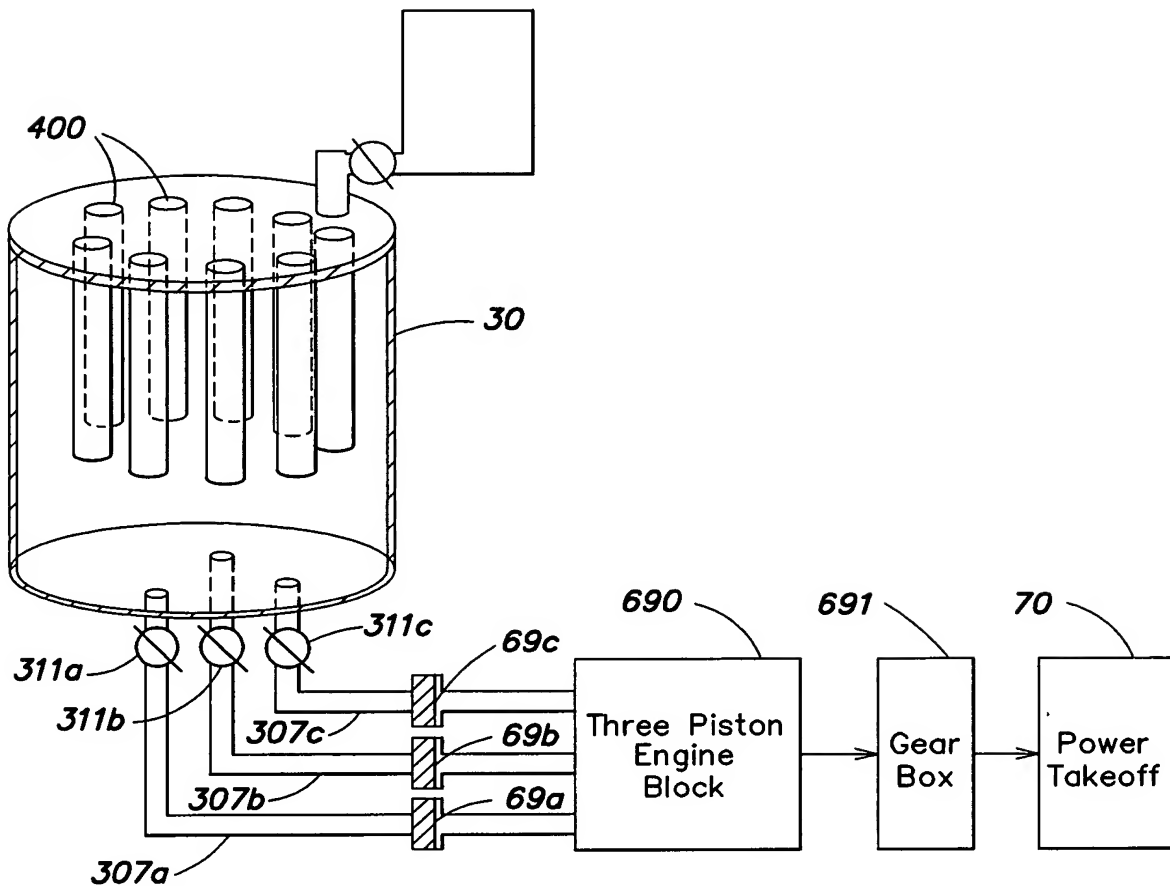


FIG. 7

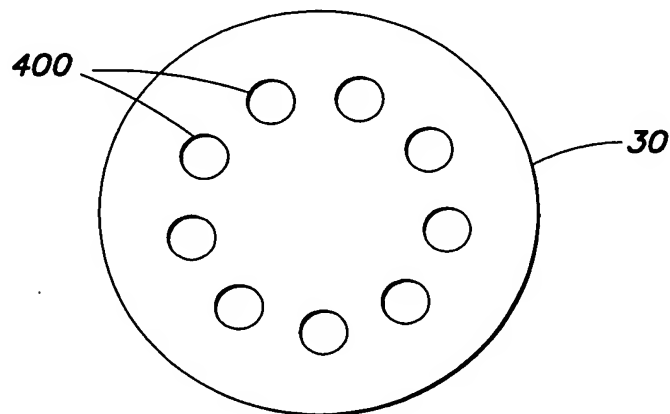


FIG. 8

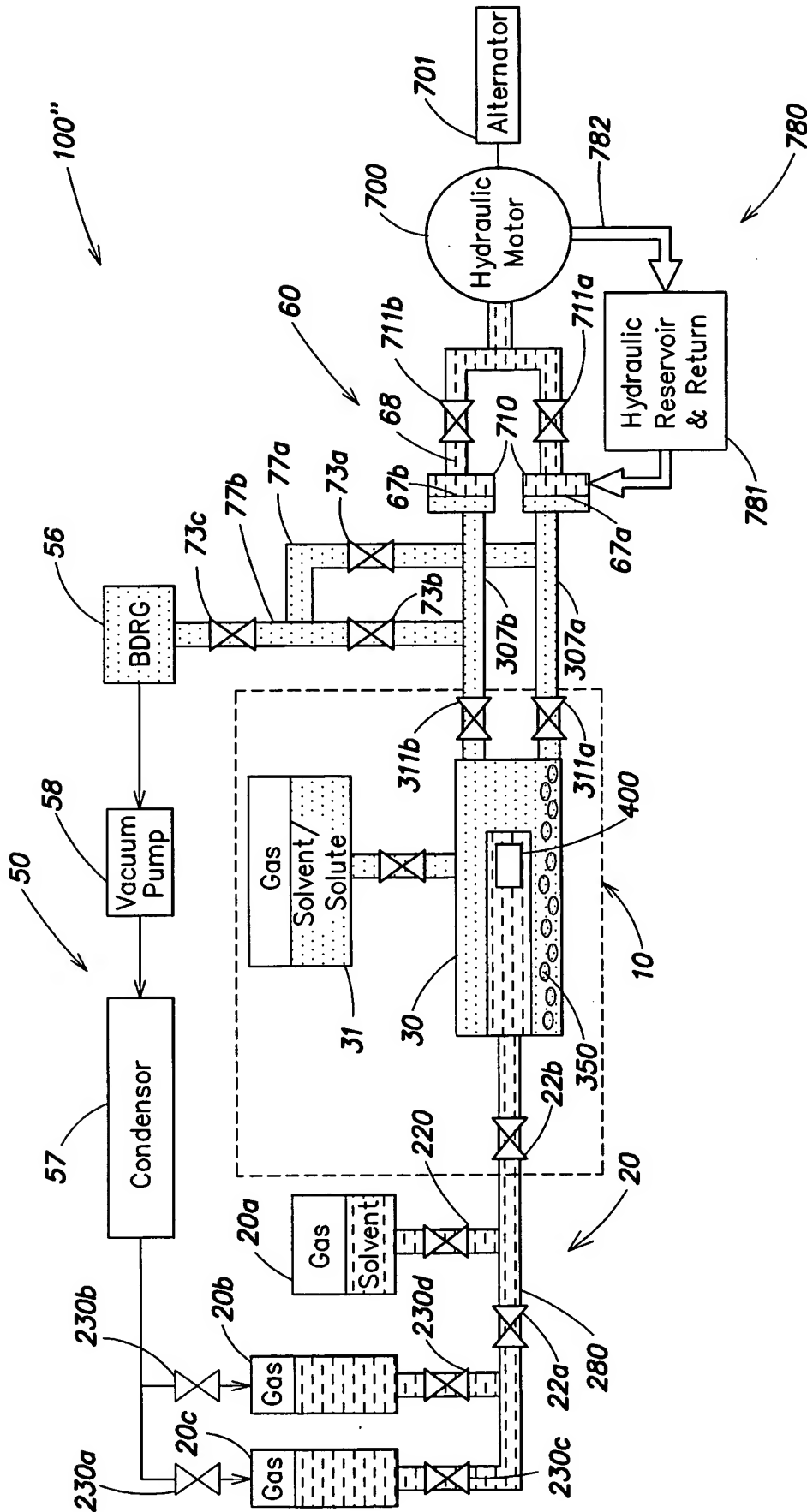


FIG. 9

	AlCl ₃ ·6H ₂ O	AlCl ₃	Sucrose	NaCl	LiCl	FeCl ₃ ·H ₂ O	FeCl ₃	
	H ₂ O	Methanol	H ₂ O	H ₂ O	Methanol	H ₂ O	Methanol	
Density solvent	1.000	0.791	1.000	1.000	0.791	1.000	0.791	
Solvent molecular weight	18.0	32.0	18.0	18.0	32.0	18.0	32.0	
Moles solvent in 1 Kg	55.6	31.2	55.6	55.6	31.2	55.6	31.3	moles
Concentration of pure solvent	55.6	24.7	55.6	55.6	24.7	55.6	24.7	mol/L
Heat capacity, Cp	4.18	2.00	4.18	4.18	2.00	4.18	2.00	J K ⁻¹ mol ⁻¹
Heat capacity, Cp	1.00	0.48	1.00	1.00	0.48	1.00	0.48	cal K ⁻¹ mol ⁻¹
Energy spent to raise blowdown to 25° C	5.80	1.24	5.80	5.80	1.24	5.80	1.24	kJ L ⁻¹
Energy spent to vaporize at 25° C at vapor pressure	40.65	35.20	40.65	40.65	35.20	40.65	35.20	kJ mol ⁻¹
Energy spent to vaporize at 25° C at vapor pressure	0.63	0.24	0.63	0.63	0.24	0.63	0.24	kWh h ⁻¹ L ⁻¹
Volume of blowdown H ₂ O + solute + H ₂ O of hydration (if any)	365	325	485	251	342	405	290	L hr ⁻¹
Volume of solvent in blowdown	54	192	178	210	210	179	210	L hr ⁻¹
Molecular elevation of boiling point(Ka)	0.512	0.830	0.512	0.512	0.830	0.512	0.830	
Barometric Correction	0.073	0.112	0.073	0.073	0.112	0.073	0.112	
Elevation of the boiling point	3.7	8.2	3.0	3.7	15.7	8.1	2.8	°C
Energy required to raise boiling point	0.856	0.407	0.701	0.852	3.641	0.403	0.656	kWh h ⁻¹ L ⁻¹
Energy spent to vaporize liquid in blowdown 25° C	34.3	46.5	112.2	132.3	134.0	48.6	112.8	kWh h ⁻¹
Daily energy spent to vaporize liquid in blowdown@ 25° C	823	1115	2693	3175	3217	1167	2708	kWh day ⁻¹
Power consumption to run pressure pump for Solvent Chamber	2.00	2.00	2.00	2.00	2.00	2.00	2.00	kWh day ⁻¹
Power consumption to run vacuum pump for solvent recycle	2.00	2.00	2.00	2.00	2.00	2.00	2.00	kWh day ⁻¹
Total power consumption internally	827	1119	2697	3179	3221	1171	2712	kWh day ⁻¹
Total power consumption internally	0.57	0.78	1.87	2.21	2.24	0.81	1.88	kW min ⁻¹
Temperature in Solvent Chamber at vapor pressure	22	22	22	22	22	22	22	°C
Temperature in Blowdown Receiving Chamber	25	25	25	25	25	25	25	°C
Temperature in Condensor at 760 mm Hg	22	22	22	22	22	22	22	°C
Solvent Chamber operating pressure	166	166	166	209	209	166	209	bar

FIG. 10A

FIG. 10B

FIG. 10A

(B)

(A)

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FIG. 10B